

NOAA's Coastal Aerial Photography

Metadata also available as - [[Questions & Answers](#)]

Metadata:

- [Identification Information](#)
 - [Data Quality Information](#)
 - [Distribution Information](#)
 - [Metadata Reference Information](#)
-

Identification Information:

Citation:

Citation Information:

Originator:

Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Geodetic Survey (NGS)

Publication Date: 2003

Title: NOAA's Coastal Aerial Photography

Geospatial Data Presentation Form: remote-sensing image

Publication Information:

Publication Place: Silver Spring, MD

Publisher: NOAA's Ocean Service, National Geodetic Survey

Online Linkage: http://www.ngs.noaa.gov/PC_PROD/Catalog/aerial_photos.htm

Description:

Abstract:

One of the primary missions of the National Ocean Service (NOS) and its predecessor agencies has been to accurately survey the coast of the United States. Beginning in the late 1930's, precision vertical aerial photography has become the primary source material for coastal survey maps. Photographic surveys replaced plane table field surveys because they could be completed faster and less expensively.

The vertical aerial photographs which are shot and maintained by the National Geodetic Survey (NGS), are used for a variety of geo-positioning application including shoreline delineation, mapping water depths, topographic mapping, mapping seabed characteristics, and locating features or obstructions to ensure the safety of marine and air navigation.

NGS's area of photogrammetric responsibilities includes all coastal regions, including the Great Lakes and their connecting navigable waterways. This represents approximately 95,000 miles of shoreline. NGS maintains a library of all vertical aerial photographic surveys of the coast dating back to 1945. There are currently over 500,000 photographs in the library with 15,000 additional photographs being acquired each year. All photographs are available to the public for purchase.

Purpose:

Vertical aerial photographs of the United States coast line were obtained as the primary source material for coastal survey maps. Vertical aerial photographs have the advantage over coastal survey maps of capturing everything in that instant and have been utilized for a wide variety of other purposes including mapping water depths, topographic mapping, missing seabed characteristics, and locating navigational hazards.

Supplemental_Information:

Hardcopy prints of any of the imagery can be ordered from the National Geodetic Survey (NGS). Any of the images can be scanned to special order at resolutions from 100 dpi to 1200 dpi.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1945

Ending_Date: present

Currentness_Reference: publication date

Status:

Progress: In work

Maintenance_and_Update_Frequency: Continually

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -64.0

East_Bounding_Coordinate: +175.0

North_Bounding_Coordinate: +71.0

South_Bounding_Coordinate: +17.0

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: vertical aerial photography

Theme_Keyword: coastal survey

Theme_Keyword: shoreline

Theme_Keyword: coastal

Theme_Keyword: color positive film

Theme_Keyword: color negative film

Theme_Keyword: digital

Theme_Keyword: oceans

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: U.S. Exclusive Economic Zone

Place_Keyword: United States

Place_Keyword: coastal regions

Place_Keyword: connecting navigable waterways

Access_Constraints: None

Use_Constraints:

These photographs were obtained for use by NGS during the course of its development of potential final products to fulfill its statutory mission. Although NGS is making these photographs available to others who may find the photographs of value, NGS does not warrant, endorse, or recommend the use of these photographs for any given purpose. NGS is providing these photographs "as is," and NGS disclaims any and all warranties, whether expressed or implied, including (without limitation) any implied warranties of merchantability or fitness for a particular purpose. In no event will NGS be liable to you or

any third party for any direct, indirect, incidental, consequential, special, or exemplary damages or lost profits resulting from any use or misuse of these data.

Point_of_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, NOS, National Geodetic Survey

Contact_Position: Chief, Information Services Branch

Contact_Address:

Address_Type: mailing and physical

Address: 1315 East West Highway, N/NGS12

City: Silver Spring

State_or_Province: MD

Postal_Code: 20910

Contact_Voice_Telephone: 301-713-2692

Contact_Facsimile_Telephone: 301-713-4176

Contact_Electronic_Mail_Address: info_center@ngs.noaa.gov

Data_Quality_Information:

Logical_Consistency_Report:

These photographs are being presented "as is". They have undergone no processing to reduce the errors that are inherent in the photogrammetric techniques. These photographs should be assumed to have errors due to scale variation and optical distortions.

Completeness_Report:

The photographs adequately represented ground truth at the time they were obtained. These photographs have not been processed to reduce the errors inherent in the photogrammetric technique.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

The primary aerial photographic product is a 9x9 inch photograph which is usually exposed at scales ranging from 1:10,000 to 1:50,000, varying slightly due to shrinkage or expansion of the paper due to atmospheric conditions, slight variations in the altitude of the plane during flying, tip and tilt of the airplane, camera optics, and the effects of ground relief.

Over the years, the image resolution capabilities and spectral quality of aerial films have advanced, and so have camera systems, photogrammetric instruments, and processes. These photographs are of metric quality for mapping purposes; they overlap 60% along a strip, which allows coverage to be views in stereo and precise photogrammetric measurements to be made in order to locate features accurately.

To reduce errors in measurements due to the quality of the photographs each photograph needs to be examined to see if it meets the study needs. Sixty-percent overlap between photographs allows for a seamless coverage of the study area even if photographs are removed. The most current photogrammetric processing techniques need to be used. Documenting the process used to minimize the effects due to scale variations and optical distortions allows the user of the data obtained from photographs to determine its accuracy.

Lineage:

Process_Step:

Process_Description:

The National Geodetic Survey (NGS) maintains a library of all aerial photographic film associated with surveys of the coast dating back to 1945. There are over 500,000 coastal photographs in the library, and about 15,000 new photographs are acquired every year. Photography cycles vary depending on the survey requirements and the amount of change caused by cultural or natural forces. Over 1/3 of the U.S. shoreline has never been surveyed by photogrammetric methods. New and recurring photographic surveys are conducted yearly.

For most photographic missions, NGS deploys a Cessna Citation II Fanjet aircraft equipped with dual camera capability. Photography is acquired when weather conditions, sun angle, and, when applicable, water levels are optimal to ensure that photographs will be suitable for a variety of purposes using standard photogrammetric techniques.

Of the 500,000 coastal aerial photographs in the NGS library approximately 15,000 have been scanned and are available online through NOS MapFinder for viewing. NOS MapFinder images are rotated to the closest 90 degrees to true north of the compass heading of the aircraft at the time of photography. The image is then scanned directly from the negative at 100 dpi.

Approximately 8,500 of the aerial photographs on MapFinder are presented as georegistered Mr. SID files. The photographs were registered using Blue Marble software, which uses the location of the NADIR point and plane elevation to interpolate four registration points. These registered photographs have a horizontal positional accuracy of 100 meters. The photographs have not been processed in such a way, as to permit multiple photographs being viewed in the same window.

Process_Date: 2002

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, NOS, National Geodetic Survey

Contact_Position: Chief, Information Services Branch

Contact_Address:

Address_Type: mailing and physical

Address: 315 East West Highway, N/NGS12

City: Silver Spring

State_or_Province: MD

Postal_Code: 20910

Contact_Voice_Telephone: 301-713-2962

Contact_Facsimile_Telephone: 301-713-4176

Contact_Electronic_Mail_Address: info_center@ngs.noaa.gov

Distribution_Information:

Distributor:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, NOS, National Geodetic Survey

Contact_Position: Chief, Information Services Branch

Contact_Address:

Address_Type: mailing and physical

Address: 1315 East West Highway, N/NGS12

City: Silver Spring

State_or_Province: MD

Postal_Code: 20910

Contact_Voice_Telephone: 301-713-2962

Contact_Facsimile_Telephone: 301-713-4176

Contact_Electronic_Mail_Address: info_center@ngs.noaa.gov

Resource_Description: Static Map Images

Distribution_Liability:

Orders are usually filled within 30 days. Photo reproductions (prints, film positives, and negatives) are custom processed and cannot be returned for credit or refund. This includes customer-misordered reproductions.

Standard_Order_Process:

Non-digital_Form: Aerial photographs

Fees:

Varying fees depending on type and size print. No discount is offered for quantity purchases.

The photograph order includes the first 15 minutes of research to locate the image. Additional research time costs \$47 per hour, or any part of an hour.

Ordering_Instructions:

Please describe the area of interest by latitude and longitude, a detailed description or sketch, or by the photograph number.

Turnaround: 30 days

Custom_Order_Process:

Digital copies of photographs can be scanned at varying resolutions (100 dpi to 1200 dpi) and burned onto a CD.

Digital Imagery (Black & White) - 6 exposures to 645 exposures per CD depending on scanned resolution.

Digital Imagery (Color) - 2 exposures to 215 per CD exposures depending on scanned resolution

Metadata_Reference_Information:

Metadata_Date: 20030221

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, NOS, National Geodetic Survey

Contact_Position: Chief, Information Services Branch

Contact_Address:

Address_Type: mailing and physical

Address: 1315 East West Highway, N/NGS12

City: Silver Spring

State_or_Province: MD

Postal_Code: 20910

Contact_Voice_Telephone: 301-713-2692

Contact_Facsimile_Telephone: 301-713-4176

Contact_Electronic_Mail_Address: info_center@ngs.noaa.gov

Metadata_Standard_Name:

Metadata_Standard_Version:

Metadata_Time_Convention:

Metadata_Extensions:

Metadata_Language: